

April 2016 Climate Review for Puerto Rico and U.S. Virgin Islands.

Synopsis: *A generally wet pattern prevailed across the area with warm to hot temperatures. A pattern of drier air may be observed to reach into the Eastern Caribbean towards July.*

Summary

A generally fair and mainly dry weather pattern prevailed across the forecast area the first half of the month with just light morning showers across the windward side of the local islands and limited afternoon convection across the interior and western portions of Puerto Rico. By mid-month, the afternoon convection became more intense and long-lasting due to favorable upper level dynamics. Rainy conditions were observed the last week of the month, when a mid-level perturbation and abundant low level moisture brought widespread shower activity across local islands. Several flood warnings were issued during this week due to the impressive rainfall amounts received in a short period of time.

Based on the Cooperative Observer Network Data (COOP), 118 % of the normal rainfall was observed across PR. Preliminarily, an average rainfall total of 5.52 inches was measured, which is 0.84 inches above normal (Table 1). Across St. Croix, an average rainfall total of 3.60 inches was observed, and this is 1.13 inches above normal (Table 1).

At the primary climatological data sites, a rainfall total of 3.22 and 2.84 inches was observed at Henry E. Rohlsen Airport in Saint Croix (TISX) and Cyril E King Airport in St Thomas (TIST) respectively. This is 1.09 and 0.10 inches above the normal rainfall at TISX and TIST respectively. In terms of temperature, the mean temperature at TISX and TIST was 80.6 and 82.0°F, which is 0.6 and 1.4°F above normal. At the San Juan Metro Area, April 2016 ended as the 6th wettest April on record.

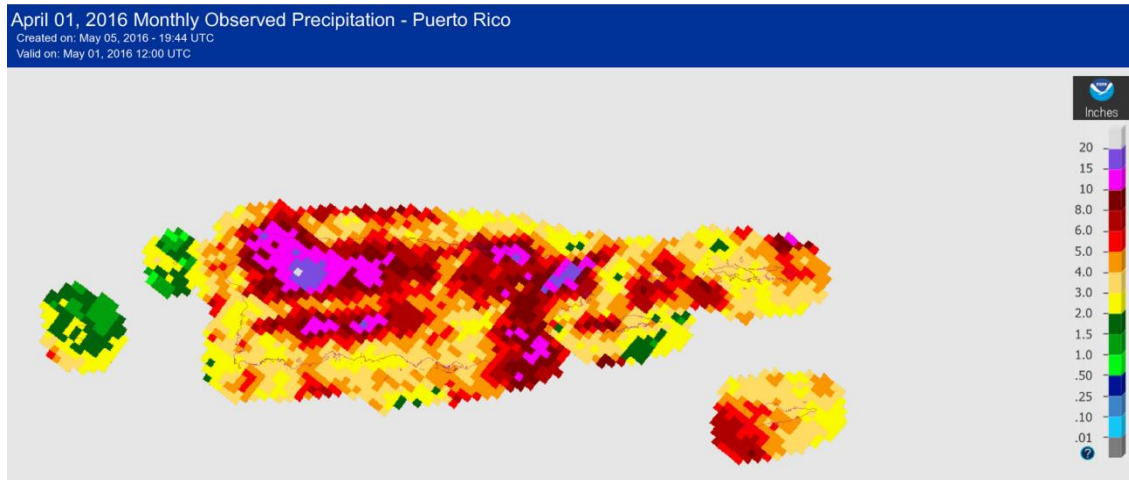
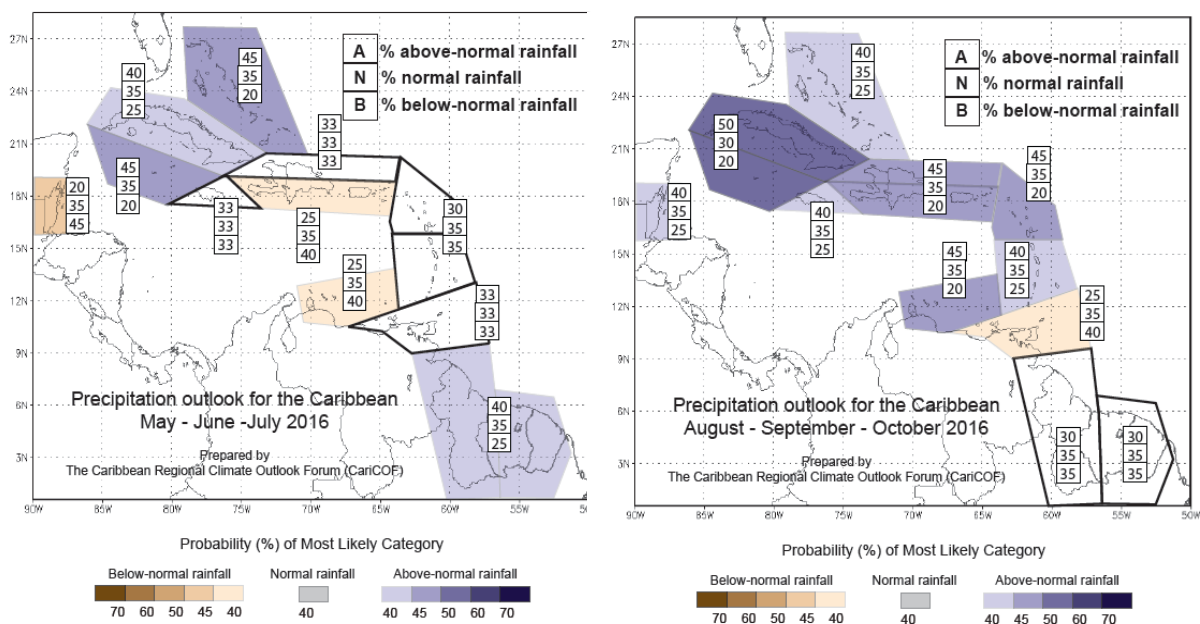


Figure 1. Rainfall Totals based on AHPS

Looking Ahead



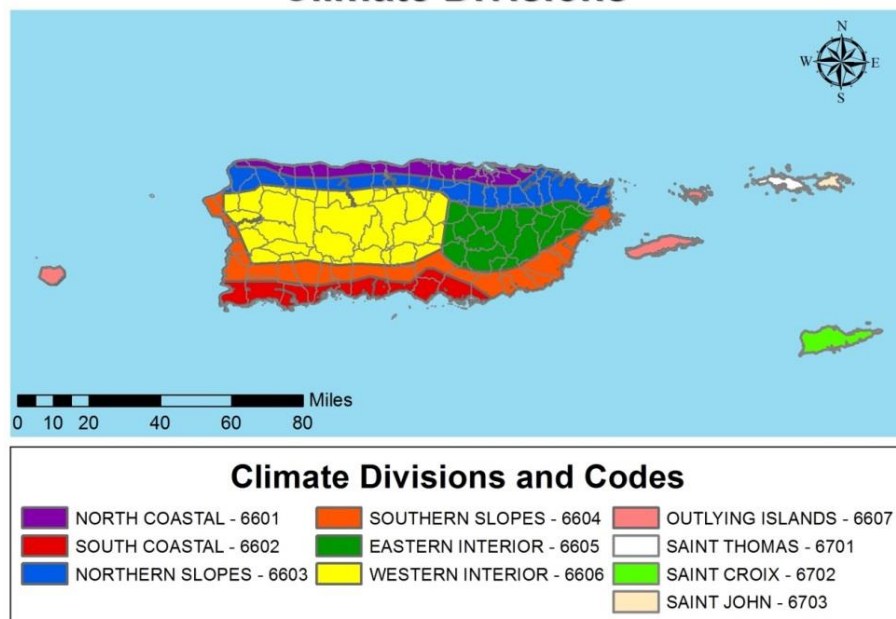
El Niño peaked in November 2015 and has weakened to a moderate state by the end of April. Most models suggest a rapidly weakening, likely disappearing by May-June-July 2016. It is expected that either neutral or La Niña conditions will prevail during August-September-

October, with 50-65% probability for La Niña, versus 30-40% for neutral. Warm sea surface temperatures north and east of the islands may lead to above-average humidity for May-June-July and August-September-October throughout the region. However, due to cooling further out in the Atlantic around the equator and west of Africa during May-June-July, a pattern of drier air may be observed to reach into the Eastern Caribbean towards July.

More Info: <http://rcc.cimh.edu.bb/long-range-forecasts/caricof-climate-outlooks/>

Average Rainfall Accumulation per climate zones based on COOP

Puerto Rico and U.S. Virgin Islands Climate Divisions



| | North Coastal | South Coastal | Northern Slopes | Southern Slopes | Eastern Interior | Western Interior | All PR | St Thomas / St John | St Croix |
|--------------------------------|---------------|---------------|-----------------|-----------------|------------------|------------------|------------|---------------------|------------|
| Observed (April) | 6.85 | 3.27 | 3.17 | 5.62 | 7.39 | 6.07 | 5.52 | 2.84 | 3.60 |
| Normal (April) | 5.16 | 2.76 | 5.26 | 3.91 | 5.26 | 5.75 | 4.68 | 2.92 | 2.47 |
| % PON (April) | 133 | 118 | 60 | 144 | 140 | 106 | 118 | 97 | 146 |
| Accumulated YTD | 15.33 | 9.53 | 12.13 | 14.43 | 21.24 | 18.66 | 15.86 | 8.11 | 12.06 |
| Normal accumulation YTD | 15.05 | 7.61 | 15.72 | 10.05 | 17.77 | 14.62 | 13.47 | 8.82 | 7.61 |
| % PON accumulated YTD | 102 | 125 | 77 | 144 | 120 | 128 | 118 | 92 | 158 |

Table 1. April 2016 and Year to date (YTD) Rainfall (inches). Percent of Normal (PON).

Historical Rainfall and Temperature

| | Puerto Rico | | San Juan Area | | IST | | ISX | |
|----------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 1997 | 0.89 | 1997 | 0.08 | 1953 | 0.23 | 1988 | T |
| 2 | 1968 | 1.56 | 1984 | 0.28 | 1985 | 0.48 | 1997 | 0.02 |
| 3 | 1984 | 1.57 | 1935 | 0.42 | 2004 | 0.54 | 2005 | 0.1 |

Table 2. Driest April on record.

| | Puerto Rico | | San Juan Area | | IST | | ISX | |
|----------|-------------|--------------|---------------|--------------|-------------|--------------|-------------|-------------|
| 1 | 2003 | 12.38 | 2005 | 15.00 | 2003 | 11.20 | 2003 | 8.53 |
| 2 | 1960 | 10.82 | 1915 | 13.17 | 1978 | 6.66 | 1983 | 8.24 |
| 3 | 2002 | 10.62 | 1988 | 10.37 | 1986 | 6.52 | 1952 | 5.38 |

Table 3. Wettest April on record.

| | Puerto Rico** | | San Juan Area | | IST | | ISX | |
|----------|---------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 1969 | 77.9 | 2014 | 82.5 | 1993 | 84.0 | 1958 | 82.0 |
| 2 | 1987 | 77.9 | 1984 | 81.8 | 1995 | 83.2 | 2000 | 81.3 |
| 3 | 1958 | 77.7 | 1983 | 81.7 | 1994 | 83.2 | 1987 | 81.3 |

Table 4. Warmest April on record.

| | Puerto Rico** | | San Juan Area | | IST | | ISX | |
|---|---------------|------|---------------|------|------|------|------|------|
| 1 | 1941 | 68.9 | 1922 | 74.3 | 1955 | 77.4 | 1982 | 75.7 |
| 2 | 1940 | 69.6 | 1921 | 74.6 | 2008 | 78.2 | 1955 | 76.6 |
| 3 | 1942 | 73.0 | 1938 | 74.7 | 1956 | 78.4 | 1954 | 77.3 |

Table 5. Coolest April on record.

** Following years are not included : 1956, 1957, 1959, 1963, 1967, 1979 and 1980**

| | Puerto Rico | San Juan Area | IST | ISX |
|-------------|-------------|---------------|------|------|
| Temperature | 75.8 | 80.3 | 80.6 | 80.0 |
| Rainfall | 4.85 | 4.68 | 2.74 | 2.13 |

Table 6. Normal Values for April

Monthly and Seasonal Highlights for Primary Climatological Data Sites.

| | March | April | Season | Year to Date |
|---------------|--|--------------------------------|-------------------------------|--|
| San Juan Area | --- | 6 th wettest 10.02" | --- | 8 th warmest start to a year with an avg. temp. of 79.2 °F. |
| IST | 6 th warmest (80.7F) and 9 th wettest (2.43") | 6 th warmest 82.0F | 5 th warmest 81.4F | 5 th warmest start to a year with an avg. temp. of 80.2 °F. |
| ISX | 5 th warmest (80.0F) and 10 th wettest (2.39") | 10 th warmest 80.6F | 8 th warmest 80.3F | 4 th warmest start to a year with an avg. temp. of 79.4 °F. |

Table 7. Spring 2016

Additional Highlights Based on COOP Data

Wettest Days

| Station | Inches (inches) | Date |
|-----------------------|-----------------|-----------|
| WFO SAN JUAN | 6.28 | 4/23/2016 |
| SAN JUAN L M MARIN AP | 5.82 | 4/23/2016 |
| CORRAL VIEJO | 4.55 | 4/26/2016 |

Highest Maximum Temperatures

| Station | Temperature (°F) | Date |
|-------------------|------------------|-----------|
| AGUIRRE | 94 | 4/21/2016 |
| TOA BAJA LEVITOWN | 94 | 4/25/2016 |
| WFO SAN JUAN | 93 | 4/25/2016 |

Lowest Minimum Temperatures

| Station | Temperature (°F) | Date |
|---------------|------------------|-----------|
| MARICAO 2 SSW | 57 | 4/21/2016 |
| PONCE 4 E | 60 | 4/14/2016 |
| AIBONITO | 61 | 4/5/2016 |

Data is preliminary and has not undergone final quality control by the National Centers for Environmental Information / NCEI/. Therefore, this data is subject to revision. Report based on data received until May 5th 2016.

Puerto Rico Climate Record Period: 1940 to 2016

San Juan Metro Area Climate Record Period: 1898 to 2016 (Primary climatological site)

Cyril E. King Airport/St Thomas Climate Record Period: 1953 to 2016 (Primary climatological site)

Henry E. Rohlsen Airport/St Croix Climate Record Period: 1951 to 2016 (Primary climatological site)